

**REMARKS**

All claims stand rejected either under 35 U.S.C. §102(e) as being anticipated by, or under 35 U.S.C. §103(a) as being unpatentable over, U.S. Published Patent Application No. US 2001/0054034 A1 to Arning et al. (hereinafter "Arning") either alone or in combination with U.S. Patent No. 6,360,229 to Blackman et al. (hereinafter "Blackman"). Applicant respectfully requests that the Examiner reconsider these rejections in view of the following Remarks.

The present invention is directed to an object model system for multidimensional applications which is comprehensive and intuitively structured, which is minimally inflatable and is expanded in memory only to the extent that a developer or user requests, which is capable of preserving application state without wasting large amounts of the web server's resources, and which provides shortcut methods to directly generate web content. To these ends, the present invention is provided with a very precise structure and operation, as discussed in more detail below with respect to the specific claim limitations.

Arning, however, is directed to a completely different system. Arning is directed to technique for accessing a subject multi-dimensional database stored on a data store connected to the computer, in which an index is created for the subject multi-dimensional database. The index comprises another multi-dimensional database, and the subject multi-dimensional database is accessed using the index.

While Arning and the present invention both relate to multi-dimensional databases, the structure and operation of the systems are completely different. More specifically, Claims 1 and 10 of the present application (which are directed to the object model employed by the system of the present invention) both require,

among other elements, (i) at least one cube object comprising at least one saved view of data; and (ii) at least one dimension object defining relationships between data in the at least one cube object.

Arning does not disclose, teach or suggest this. Rather, Arning discloses two separate multi-dimensional databases (index multi-dimensional database 134 and subject multi-dimensional database 136). Although not explicitly stated, it appears that each of these databases 134, 136 employs a standard object model, having stored thereon two separate sets of cube objects. There is no disclosure, teaching or suggestion that either of databases 134, 136 employs the novel object model of the present invention (i.e., one which includes at least one cube object comprising at least one saved view of data and at least one dimension object defining relationships between data in the at least one cube object).

The Examiner appears to recognize that Arning discloses two sets of cube objects. However, according to the Examiner, simply because “cubes generally have hierarchies or formula-based relationships of data within each dimension...”, one of the sets of cube objects can be considered a set of dimension objects as required by the claims in question.

Applicant respectfully disagrees with the Examiner’s assertion that one of the sets of cube objects disclosed in Arning can be considered a set of dimension objects. While it may be true that a cube object is a dimensional object (in that it is at least three dimensional), and that “cubes generally have hierarchies or formula-based relationships of data within each dimension”, a cube object is not a “dimension object” as the term “dimension object” is understood by those skilled in the art. Rather, dimension objects are objects which define relationships between data in other objects (such as cube objects). In fact, Claims 1 and 10 were previously amended to require that the at least one dimension object define

relationships between data in the at least one cube object. Applicant notes that the Examiner has not indicated any portion of Arning as disclosing, teaching or suggesting that the second set of cube objects (which the Examiner equates to the claimed dimension objects) defines relationships between data in the first set of cube objects. Indeed, Applicant respectfully submits that no such disclosure, teaching or suggestion can be found in Arning. In fact, the portion of Arning cited by the Examiner, which states that “cubes generally have hierarchies or formula-based relationships of data within each dimension”, specifically supports this contention. Cube objects, which have three dimensions, have hierarchies or formula-based relationships of data within each dimension (i.e., within each of the three dimensions of the cube). Cube objects do not define relationships between data in other objects -- this is what dimension objects do.

As such, Applicant respectfully submits that there is no disclosure, teaching or suggestion of any dimension objects (as the term is properly understood by those skilled in the art) in Arning, and there certainly is no disclosure, teaching or suggestion of any dimension objects which define relationships between data in at least one cube object.

Moreover, as more fully discussed in the previously filed Response to Office Action, Applicant respectfully submits that it would not have been obvious for one skilled in the art to modify Arning to arrive at the present invention because Arning is concerned with solving a completely different (and unrelated) problem than is the object model aspect of the present invention. Applicant acknowledges that the goals of the present invention are not present in the claims, and does not rely on the goals in distinguishing the claims at issue from Arning. Applicant merely notes the differing goals as evidence that one skilled in the art would not have modified Arning to include the claimed elements which it does not disclose, since such missing elements would not help one achieve the goals of Arning.

Claims 11, 24 and 27 of the present application (which are directed to the adaptive instantiation and inflation technique employed by the system of the present invention) all require, among other elements, object model software: (i) which instantiates and inflates a predefined group of specified objects up-front a first time the database is accessed, and (ii) which instantiates and inflates nonspecified objects which are not included in the predefined group of specified objects on demand as each of the nonspecified objects is accessed. Thus, Claims 11, 24 and 27 of the present invention require a two-stage, adaptive instantiation and inflation.

As is recognized by the Examiner, Arning does not disclose, teach or suggest this. Arning does not even specifically address when instantiating and inflating of the databases is to occur. Applicants further respectfully submit that Blackman similarly does not disclose, teach or suggest the two-stage, adaptive instantiation and inflation technique as claimed.

Rather, Blackman discloses that "on demand" (i.e., either when the objects framework is loaded or when the application program first requests an applView object), an instantiation routine is commenced. The instantiation routine, which is shown in Figure 3 and described in detail at Column 9, lines 26-61, involves instantiating the DL/I™ object, then instantiating the requested applView object, then instantiating the dbdView objects, then instantiating the iterator object, and then entering a loop wherein each of the business objects (BOs) and data objects (DOs) are instantiated/materialized. This technique is completely different than the novel technique claimed. More specifically, although Blackman discloses that there are numerous objects which are being instantiated, they are all instantiated when the objects framework is loaded or when the application program first requests an applView object. In Blackman, there is simply no disclosure, teaching

or suggestion of a predefined group of specified objects which are instantiated upfront a first time the database is accessed, and objects which are not included in the predefined group of specified objects which are instantiated on demand as each of the nonspecified objects is accessed. Thus, although there are several objects which are being instantiated, they are instantiated in a single-stage process at either one of two times (i.e., either when the objects framework is loaded or when the application program first requests an applView object).

The Examiner cites several portions of Blackman as disclosing the claimed two-stage adaptive instantiation and inflation technique of the present invention. However, Applicant respectfully submits that it is only when these portions are taken out of context that they may appear to teach the claimed invention. For example, the Examiner cites Column 6, lines 34-50 as teaching that “the application program 106 dynamically loads previously-defined objects into the objects framework 108 to access the database 112 during execution time...the application program 106 first loads the objects framework 108 class library by instantiating the DL/I™ object....” However, the Examiner omits the further explanation that: “The objects loaded into the objects framework 108 include a DL/I™ object 200, one or more applView objects 202, one or more dbdView objects 204, one or more business objects (BOs) 206, one or more data objects (DOs) 208, and an iterator object 210.” This is all of the objects that are to be instantiated, not “a predefined group of specified objects” which are instantiated in a first step of a two-step process as required by the claims in question. Moreover, the examiner omits the explanation that after the application program 106 first loads the objects framework 108 class library by instantiating the DL/I™ object, the application program 106 also instantiates “one applView object 202, and one dbdView object 204” and that “the objects framework 108 then dynamically loads in the BO 206 and DO 208 class library requested by the application program 106 to create an iterator object 210, which then instantiates the BOs 206 and their

corresponding DOs 208 during execution". This is a single stage process which may be commenced at either one of two times (i.e., either when the objects framework is loaded or when the application program first requests an applView object).

Applicant respectfully submits that when Blackman is taken as a whole, rather than simply taking selected bits and pieces thereof out of context, the claimed two-stage, adaptive instantiation and inflation technique of the present invention is not disclosed, taught or suggested in any way, nor is there any motivation provided in Blackman to modify the device disclosed therein to provide such a two-stage, adaptive instantiation and inflation technique.

For the foregoing reasons, Applicant respectfully submits that all pending claims, namely Claims 1-43, are patentable over the references of record, and earnestly solicits allowance of the same.

Respectfully submitted,



Stephen P. McNamara, Reg. No. 32,745  
Todd M. Oberdick, Reg. No. 44,268  
ST. ONGE STEWARD JOHNSTON & REENS LLC  
986 Bedford Street  
Stamford, Connecticut 06905-5619  
(203) 324-6155  
Attorneys for Applicant

**Amendments to the Drawings:**

There are no amendments made to the Drawings herein.